SECTION C4
LATTS STRATEGIC HIGHWAY SYSTEM

The specific highways which comprise the LATTS Strategic Highway System were identified through an interactive process involving each individual Alliance Member and the consultant team. The LATTS Steering Committee, working through the LATTS Working Committee representatives, adopted a series of criteria to help identify a network of highways for further analysis. The 22,859-mile mainline LATTS Strategic Highway System shown in **Exhibit C4-1** resulted from this process. As discussed subsequently, the system also included intermodal connectors, i.e., highways that link mainline highways with LATTS intermodal facilities (water ports and airports).

HIGHWAY IDENTIFICATION PROCESS AND CRITERIA

Development of the process and criteria used to identify the LATTS Strategic Highway System involved an initial examination of the nature and extent of the existing highway system in the Alliance Region. Consistent with the emphasis of the LATTS analyses, it was determined that the main focus of the highway analyses should be upon major highway corridors since these facilities serve the largest volume of road-based Latin American trade flows. Additionally, in keeping with the study's systems approach, other highway elements were added to the overall Strategic Highway System to comprise an interconnected network which serves major intermodal facilities which are important to Latin American trade.

The criteria which evolved from these initial analyses are as follows:

- All **Interstate Highways** in the Alliance Region (14,602 miles) were included because these are the corridors that have the greatest national and regional significance. Also, these major corridors are the principal carriers of heavy freight. Accordingly, it was reasonable to assume that they also are the most important highway corridors for trade flows involving Latin America. Subsequent LATTS analysis confirmed that there is a very high concentration of LATTS truck traffic on these highways. These facilities are shown in **Exhibit C4-2**.

- Selected **National Highway System (NHS) Freeways** (roadways built as fully access-controlled facilities, both "free" and tolled) were included based on the assumption that higher-order state, U.S. and state routes are more likely to serve heavy trade flows since they are built to withstand truck weights and to accommodate large vehicles. It was not intended that all NHS Freeways be included in the Strategic Highway System. Rather, only those that serve a multi-state area and are of a scale, character and significance similar to other Strategic Highway System components were included.

Exhibit C4-1
LATTS STRATEGIC HIGHWAY SYSTEM
Mainline Highways

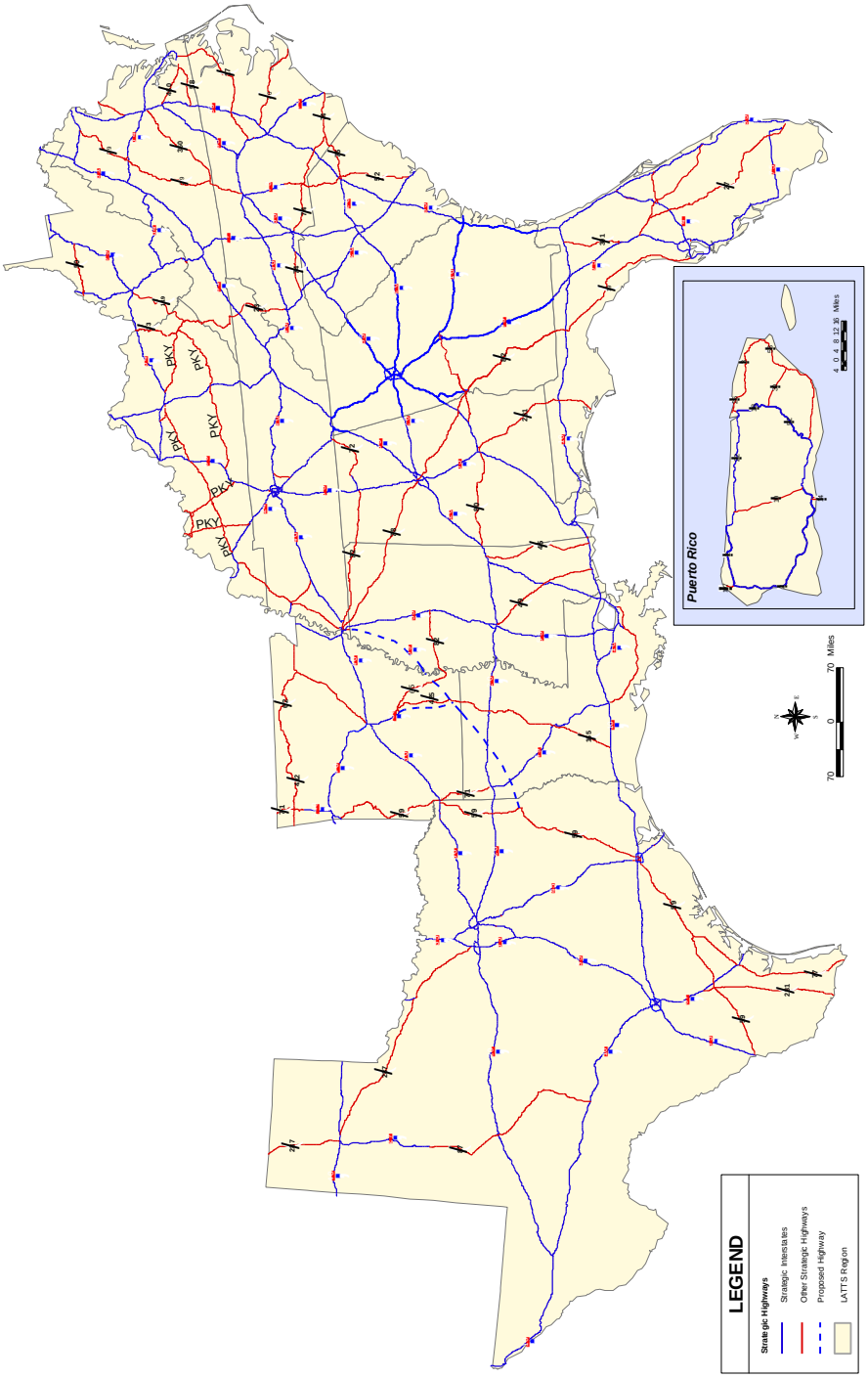
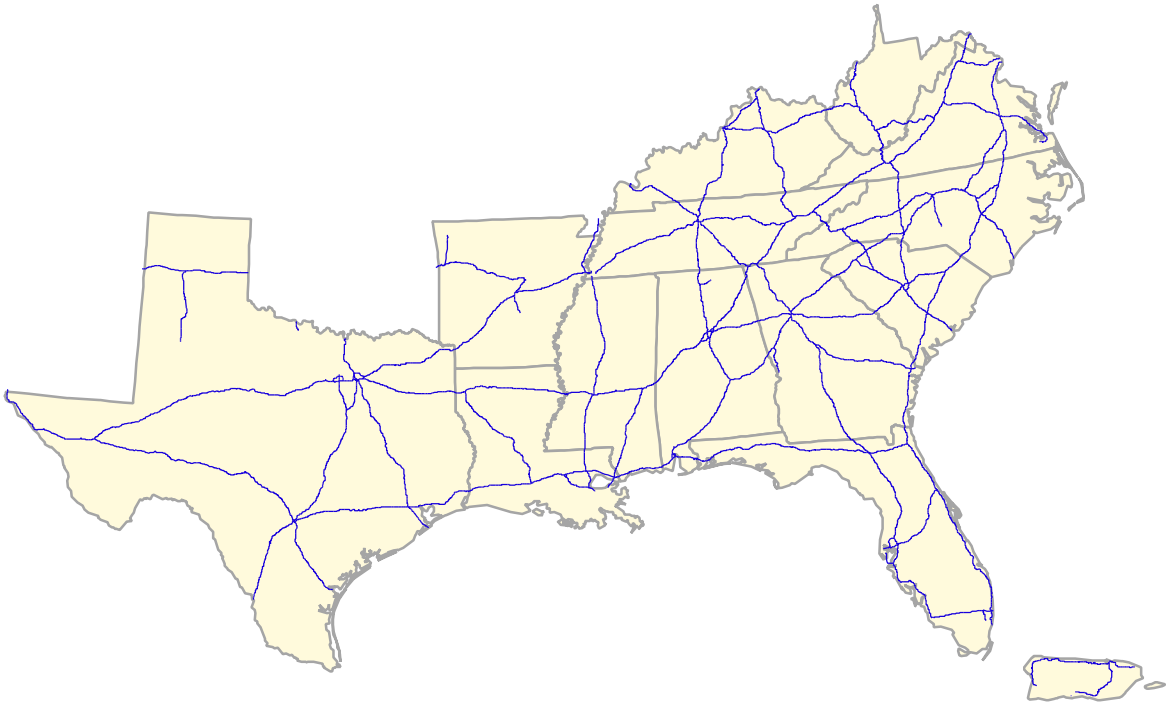


Exhibit C4-2
INTERSTATE HIGHWAY SYSTEM
ALLIANCE REGION



- A few **NHS Non-Freeways** (facilities built to lesser standards) were included. This recognized important existing roadways that have not been upgraded, yet remain important to highway freight movements. Many of the two-lane highways included in the LATTS System are proposed to be upgraded.

- **ISTEA/TEA-21 High Priority Corridors** within the Alliance Region were included in the Strategic Highway System if: 1) they currently exist (as a facility consistent within the corridor definition); or 2) there is no existing facility, but one is economically justified. There are 43 identified High Priority Corridors nationwide (**Exhibit C4-3**). Eighteen of these High Priority Corridors are within the Alliance Region. Of these, five were excluded because they did not meet the above criteria (**Exhibit C4-4**).

- **NHS Connectors** linking a LATTS Strategic Highway with a LATTS airport or water port were included in the Strategic Highway System. The principles of intermodalism justify the inclusion of NHS Connectors, especially because many of the inefficiencies experienced at freight terminals can be traced to access problems on routes linking the facility with higher order roadways.

The relationship between LATTS Connectors and LATTS "mainline" highways is illustrated in **Exhibit C4-5**.

Exhibit C4-3
HIGH PRIORITY CORRIDORS

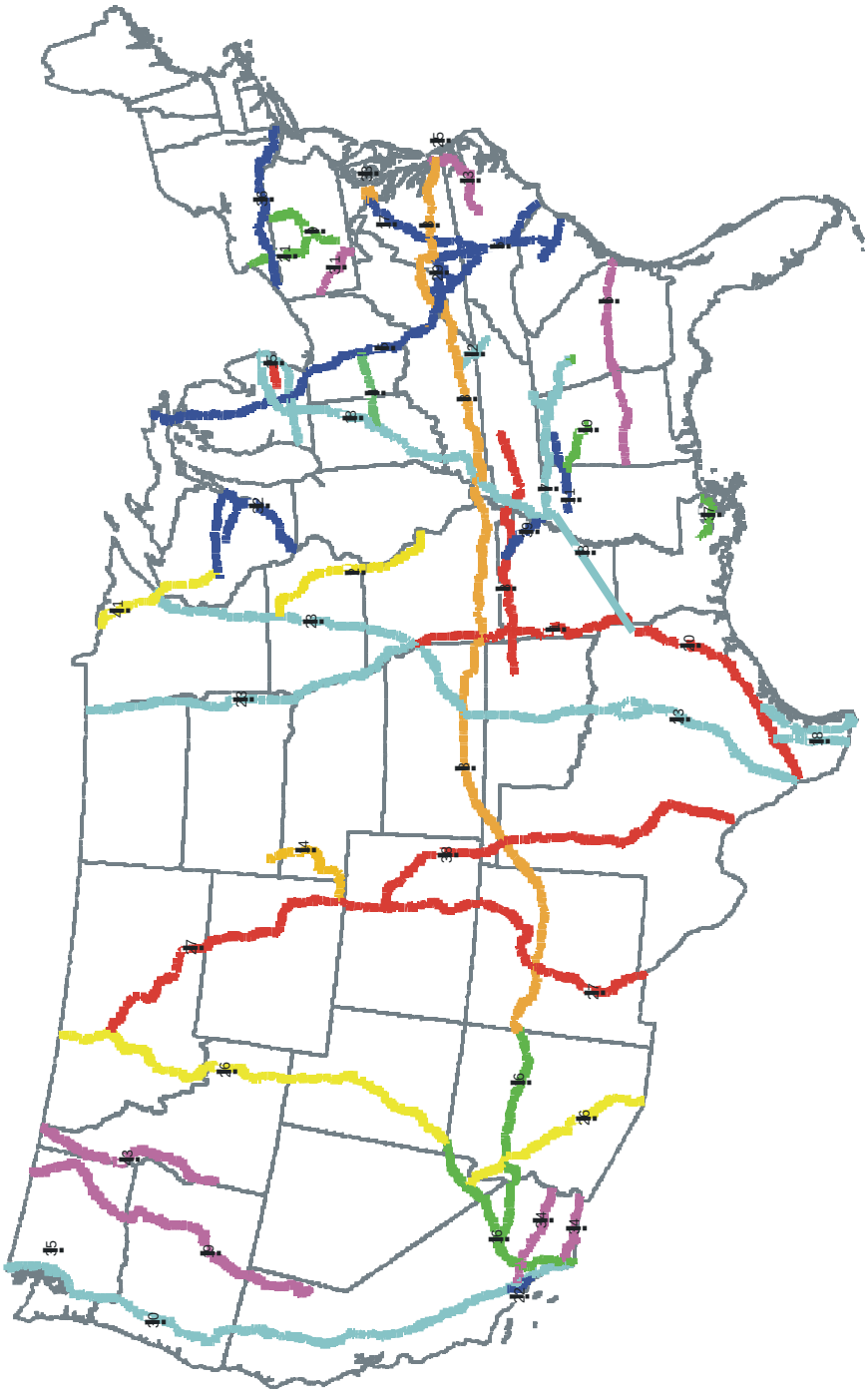
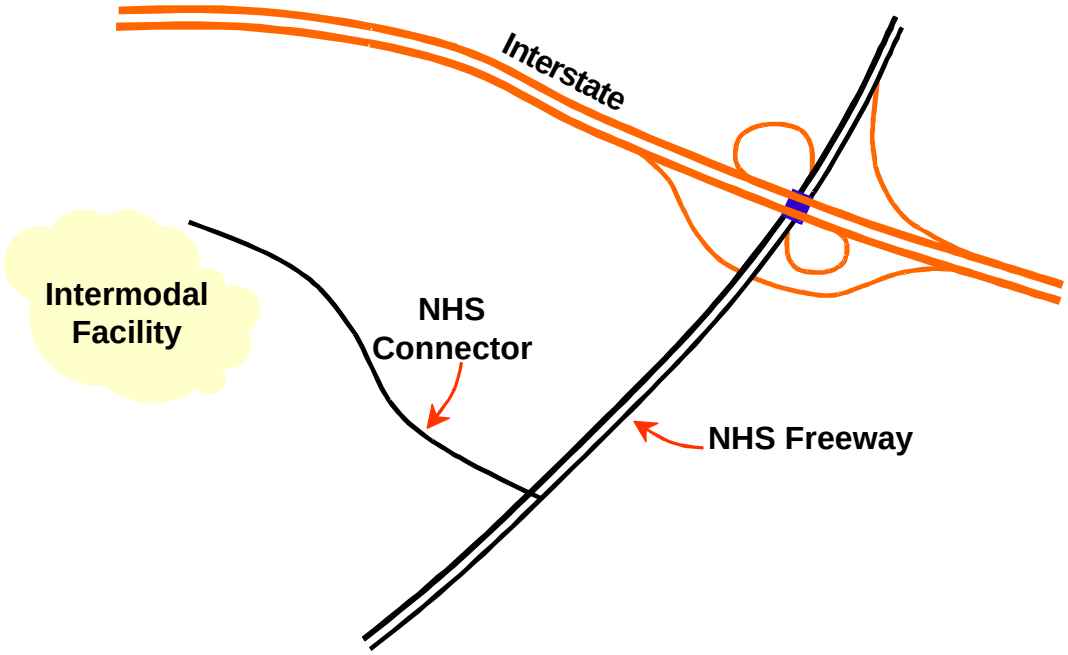


Exhibit C4-4
ISTEA HIGH PRIORITY CORRIDORS ON THE NATIONAL HIGHWAY SYSTEM & WITHIN THE SOUTHEASTERN TRANSPORTATION ALLIANCE

Corridor	Description
1	North-South corridor from Kansas City, MO to Shreveport, LA (I-49).
3	East-West Transamerica Corridor commencing in the Hampton Roads area, going west across VA, then to a WV corridor centered around Beckly, then to a KY corridor, into IL, into MO, and moving westward across southern KS.
5	I-73/74 corridor from Charleston, SC through Winston-Salem, NC to Ohio, with termini at Detroit, MI and Sault Ste. Marie, MI.
6	U.S. 80 Corridor from Meridian, MS to Savannah, GA.
7	East-West corridor from Memphis, TN through Huntsville, AL to Atlanta, GA and Chattanooga, TN.
8	Highway 412 East-West corridor from Tulsa, OK through AK to Nashville, TN.
10	Appalachian Regional Corridor X (from northeast MS to Birmingham, AL).
11	Appalachian Regional Corridor V (from I-55 in MS, via Huntsville, AL to the vicinity of Chattanooga, TN).
12	US 25 E from Corbin, KY to Morristown, TN.
13	Corridor from Raleigh NC to Norfolk, VA.
17	Route 29 corridor from Greensboro, NC to the District of Columbia.
18	Corridor from Indianapolis, IN through Evansville, IN, Memphis, TN, MS, AR, Shreveport/Bossier City, LA, Houston, TX to the Lower Rio Grande Valley (I-69).
20	US 59 from Laredo, TX, through Houston, to the vicinity of Texarkana, TX
23	I-35 from Laredo, TX, through Oklahoma City, Kansas City, Des Moines, and Minneapolis to Duluth, MN.
25	State Route 168 (South Battlefield Boulevard), VA from the Great Bridge Bypass to the North Carolina state line.
27	The Camino Real Corridor from El Paso, TX to Denver, CO.
28	The Birmingham Northern Beltline from I-59 near Trussville, AL to a terminal at the I-59/I-459 interchange.
29	The Coalfields Expressway beginning at Beckly, WV to Pound, VA.

NOTE: Corridors denoted by shaded boxes do not meet the LATTS Strategic Transportation System criteria.

Exhibit C4-5
LATTS HIGHWAY SYSTEM COMPONENTS



Alliance members' suggestions for inclusion of additional LATTS highways also were given due consideration. Some of these routes were found to be of marginal importance regionally, but of significant importance to local economies. Because of the LATTS emphasis upon important freight highways serving regional travel, some suggested highways were excluded from the System, while others were added when they reasonably met the definition and criteria for the LATTS Strategic Highway System.

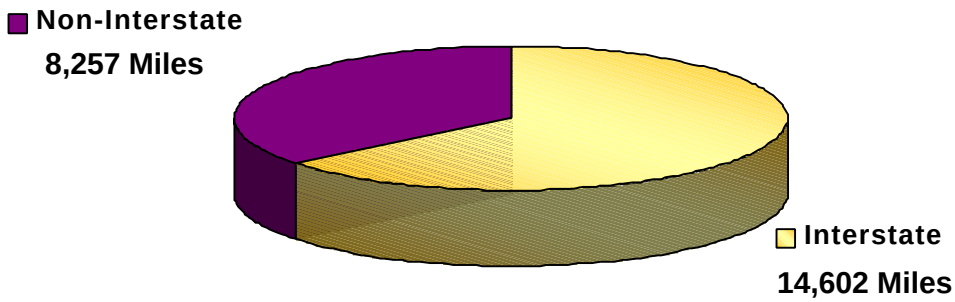
LATTS STRATEGIC HIGHWAY SYSTEM

The resulting mainline LATTS Strategic Highway System was depicted earlier in Exhibit C4-1. **Exhibit C4-6** displays the composition of the LATTS mainline highways by system. **Exhibit C4-7** depicts the LATTS System composition as a subset of all Alliance highway mileage.

Interstate Highways

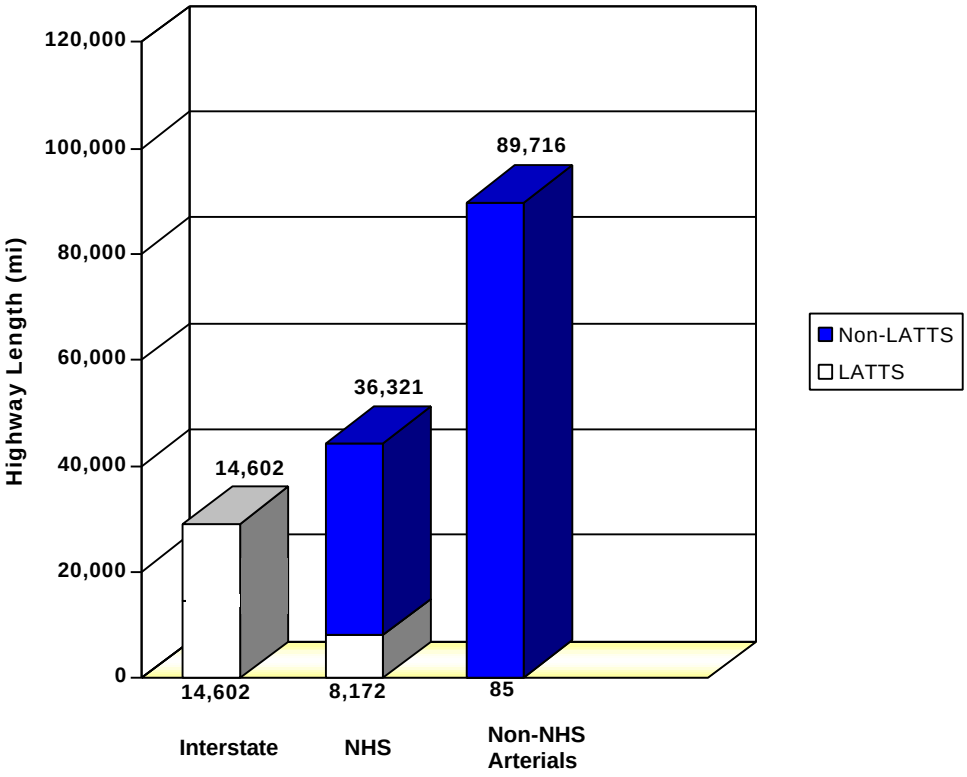
All Interstate Highways (14,602 miles) in the Alliance were included in the LATTS Strategic Highway System. Nearly two-thirds of the LATTS mainline Strategic Highway System is part of the Interstate System.

Exhibit C4-6
LATTS STRATEGIC HIGHWAY SYSTEM



22,859 Miles Total **Excludes LATTS Connectors**

Exhibit C4-7
MILES OF LATTS MAINLINE HIGHWAYS IN THE ALLIANCE REGION



Non-interstate NHS Routes

The National Highway System (NHS) is a system approved by Congress in 1995 as an outgrowth of the ISTEA legislation. NHS routes, like LATTS highways, serve mostly long distance interregional traffic, intermodal facilities, and major freight generators. They are a higher-order subset of the principal arterial system.

The Alliance members have 36,321 non-interstate miles on their NHS. Of these, nearly one-fourth (8,172 miles) were included in the mainline LATTS Strategic Highway System. Because of the unique characteristics of each Alliance member, there is considerable range between the Alliance members: about 8% of Georgia's non-interstate NHS mileage was included in the LATTS mainline system vs. 40% in Arkansas, 42% in Kentucky, and 86% in Puerto Rico.

Non-NHS Routes

Criteria for the LATTS Strategic Highway System discouraged inclusion of highways that are not part of the NHS. Non-NHS highways comprise lower order rural/urban other principal arterials, rural/urban minor arterials, and rural/urban collectors. These facilities, as distinguished by their functional classification, tend to serve trips of shorter distances. Also, because the highway portion of the LATTS system is essentially a truck network, lower order facilities typically are excluded from state-designated truck systems (Class I, II, III designation). Therefore, these lower order highways were generally considered inappropriate for inclusion in the LATTS Highway System.

The 14-member Alliance designated just one section of their 89,716 miles of non-NHS highways for inclusion in the LATTS System. An 85-mile segment of US 80 (Corridor 16) between Columbus and Macon, Georgia is not part of the National Highway System. However, this segment is part of the Congressionally-designated High Priority Corridor 6 stretching from Meridian, Mississippi to Savannah, Georgia.

The Alliance highway mileage by Alliance member is listed in **Exhibit C4-8**. Of the 140,639 highway miles classified as arterial or higher in the 14-member Alliance Region, about 16 percent was included in the mainline LATTS Strategic Highway Network. Texas has the largest amount of LATTS mainline mileage (4,917) while Puerto Rico has the least (419).

LATTS HIGHWAYS VS. LATTS TRADE CORRIDORS

For analysis purposes, the 22,859 miles of "mainline" LATTS Strategic Highways were grouped into 25 LATTS Trade Corridors (**Exhibit C4-9**). The Trade Corridors were established using principal origins/destinations and assigning each highway to only one corridor. Each corridor was assigned a number (from 1 to 25) and was referred to by the primary highway within the corridor (i.e., "I-40"). **Exhibit C4-10** summarizes mainline LATTS Strategic Highway System mileage by LATTS Trade Corridor, and **Exhibit C4-11** lists the highways included within each corridor.

Exhibit C4-8
LATTS STRATEGIC HIGHWAY SYSTEM
Mainline Miles by State

	Total Mainline LATTS Miles	Interstate	**Non-Interstate**
Alabama	1,485	905	580
Arkansas	1,481	631	850
Florida	2,302	1,472	830
Georgia	1,478	1,233	245
Kentucky	1,632	762	870
Louisiana	1,431	893	538
Mississippi	1,396	685	711
North Carolina	1,647	987	660
Puerto Rico	419	250	169
South Carolina	1,029	829	200
Tennessee	1,269	1,073	196
Texas	4,917	3,231	1,686
Virginia	1,663	1,106	557
West Virginia	710	545	165
Total	**22,859**	**14,602**	**8,257**

Exhibit C4-9
LATTS TRADE CORRIDORS

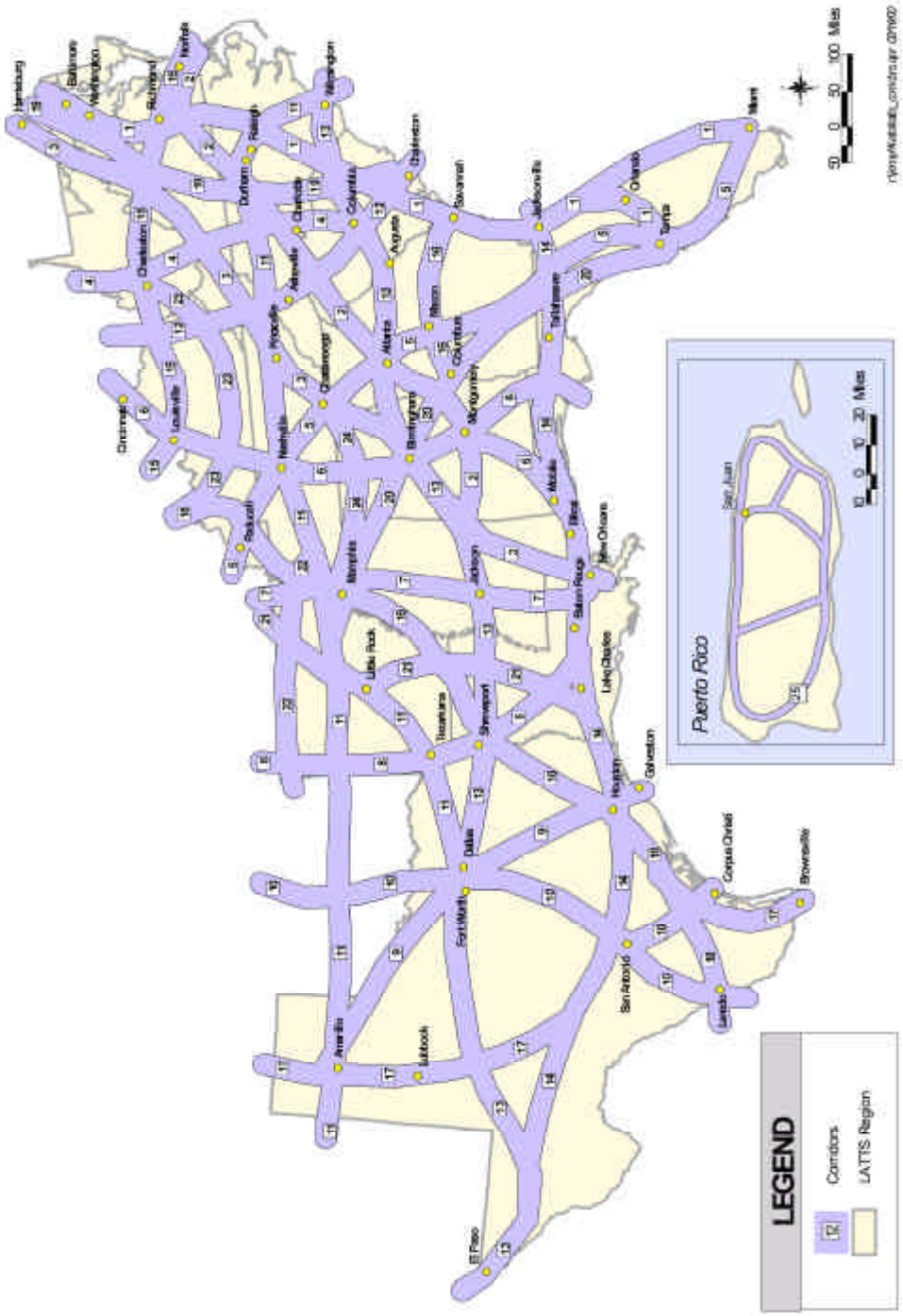


Exhibit C4-10
LATTS STRATEGIC HIGHWAY SYSTEM
Miles by Corridor

Corridor	Interstate	Non-Interstate	Total
1	1,320	66	1,386
2	844	401	1,245
3	995	177	1,172
4	656	77	733
5	1,576	515	2,091
6	740	177	917
7	438	146	584
8	265	241	506
9	300	335	635
10	769	0	769
11	1,769	328	2,097
12	308	225	533
13	1,459	58	1,517
14	1,883	157	2,040
15	641	0	641
16	169	85	254
17	124	310	434
18	0	1,716	1,716
19	12	642	653
20	0	710	710
21	46	591	637
22	16	323	339
23	0	578	578
24	22	231	253
25	250	169	419
Total	14,602	8,257	22,859

Exhibit C4-11
LATTS CORRIDORS AND STRATEGIC HIGHWAYS

Route	Termini	States	Miles
Corridor 1	**South Florida to Washington, DC**		**1,386**
I-4	I-95 @ Daytona Beach to I-275 @ Tampa	FL	132
I-95	Washington DC to Miami	VA, NC, SC, GA, FL	1,053
I-195	I-95 in Miami to Miami Beach	FL	4
I-195	I-64 to S-195 in Richmond	VA	3
I-295	I-64 NW Richmond to I-95 @ Petersburg	VA	53
I-295	Around Jacksonville	FL	36
I-395	in Miami	FL	1
I-395	Washington DC to I-95 W. Alexandria	VA	10
I-495	Maryland SL to I-95 W. Alexandria	VA	15
I-595	I-75 to I-95 @ Ft. Lauderdale	FL	13
US-58	I-95 @ Emporia to Norfolk	VA	66
Corridor 2	**W. Alabama to Norfolk**		**1,245**
I-85	I-95 @ Petersburg to I-65 @ Montgomery	VA, NC, SC, GA, AL	661
I-185	Greenville, SC to I-85	SC	3
I-185	I-85 to Columbus, GA	GA	49
I-285	Around Atlanta	GA	61
I-385	Greenville, SC to I-26	SC	42
I-585	in Spartanburg, SC	SC	2
I-985/US 19 & 23	N. I-85	GA	26
US 64/17	I-40 S. Raleigh to Norfolk	NC, VA	177
US 80	I-20/59 to I-65 @ Montgomery	AL	133
US 80	I-20 W. Auburn to Columbus, GA	AL	38
US 460	I-95 @ Petersburg to I-64 @ Norfolk	VA	53
Corridor 3	**New Orleans to Pennsylvania & DC**		**1,172**
I-59	I-24 @ Chattanooga to I-10 @ New Orleans	TN, AL, GA, MS, LA	448
I-66	I-81 to Washington, DC	VA	75
I-81	MD-SL to I-40 E. Knoxville	WV, VA, TN	428
I-459	Around Birmingham	AL	33
I-581	in Roanoke	VA	7
I-759	@ Gadsden	AL	4
US 45/S 57/63	I-20 @ Meridian to Pascagoula	MS	177
Corridor 4	**South Carolina to Ohio**		**733**
I-68	I-79 @ Morgantown to Maryland SL	WV	32
I-70	Ohio SL to Pennsylvania SL	WV	15
I-77	Ohio SL to I-26 @ Columbia, SC	WV, VA, NC, SC	444
I-79	Pennsylvania SL to I-77 @ Charleston	WV	161
I-277	in Charlotte	NC	4
US 50	I-77 @ Parkersburg to I-79	WV	77

Exhibit C4-11 (cont'd)

Route	Termini	States	Miles
Corridor 5	**South Florida to Illinois**		**2,091**
I-24	IL State Line @ Paducah to I-75	KY, TN, GA	272
I-75	Ohio SL @ Cincinnati S821 in Miami	KY, TN, GA, FL	1,152
I-124	Nashville	TN	2
I-175	Tampa	FL	1
I-275	Tampa	FL	62
I-275	Around Cincinnati	KY	25
I-275	in Knoxville	TN	3
I-375	Tampa	FL	1
I-475	W. of Macon, GA	GA	16
I-575	I-75 N. near Marietta	GA	31
I-675	I-285 to I-75 S. Atlanta	GA	11
US 27	FL Turnpike W. Orlando to Miami	FL	246
US 301	I-10 W. Jacksonville to I-95	FL	73
S-528	Turnpike S. Orlando to I-95	FL	41
FL Turnpike	I-75 S. Ocala to I-95	FL	155
Corridor 6	**Mobile to Cincinnati**		**917**
I-65	Indiana 56 to I-10 @ Mobile	KY, TN, AL	625
I-71	I-75 to I-65	KY	78
I-165	I-65 to I-10 in Mobile	AL	5
I-265	I-71 to I-65 @ Louisville	KY	24
I-265	in Nashville	TN	3
I-471	S. Cincinnati	KY	5
US 82/231	Montgomery to Panama City	AL, FL	169
S-840	I-24 to I-40 @ Nashville	TN	8
Corridor 7	**New Orleans to St. Louis**		**584**
I-55	Missouri SL to I-10 in New Orleans	AR, MS, LA, TN	438
US 49	I-55 @ Jackson to I-10 @ Biloxi	MS	146
Corridor 8	**New Orleans to Kansas City**		**506**
I-49	I-20 @ Shreveport to I-10 @ Lafayette	LA	208
I-540	Ft. Smith to Fayetteville	AR	57
US 71	Missouri SL to I-20 @ Shreveport (I-540 gap)	AR, LA	241
Corridor 9	**Amarillo to Galveston**		**635**
I-44	Oklahoma SL to US 287	TX	15
I-45	I-20 @ Dallas to Galveston	TX	285
US 81/287	I-40 @ Amarillo to Ft. Worth	TX	335
Corridor 10	**Plains to South Texas**		**769**
I-35	Oklahoma SL to Laredo	TX	589
I-37	I-35 @ San Antonio to Corpus Christi	TX	143
I-635	in Dallas	TX	37

Exhibit C4-11 (cont'd)

Route	Termini	States	Miles
Corridor 11	**North Texas to Wilmington**		**2,097**
I-30	Dallas to Little Rock	TX, AR	367
I-40	New Mexico SL to Wilmington NC	TX, AR, TN, NC	1,297
I-140	S. Knoxville	TN	11
I-240	in Memphis	TN	19
I-240	in Asheville	NC	9
I-430	I-30 to I-40 W. Little Rock	AR	13
I-440	@ Little Rock	AR	10
I-440	in Nashville	TN	8
I-440	@ Raleigh	NC	17
I-540	@ Raleigh	NC	4
I-630	in Little Rock	AR	7
I-640	in Knoxville	TN	7
US 74	I-26 to US 76	NC	215
US 70	I-95 to Morehead City	NC	113
Corridor 12	**Charleston, SC to Ohio**		**533**
I-26	I-40 @ Asheville to Charleston, SC	NC, SC	261
I-126	in Columbia	SC	4
I-526	in Charleston	SC	19
US 19	TN State Line to Asheville	NC	33
US 23/I-181	Ohio SL to Asheville	KY, TN, NC, VA	216
Corridor 13	**El Paso to Wilmington**		**1,517**
I-20	El Paso to Wilmington	TX, LA, MS, AL, GA, SC	1,384
I-220	@ Shreveport	LA	18
I-220	@ Jackson	MS	12
I-520	@ Augusta, GA	GA	10
I-820	in Ft. Worth	TX	35
US 76	I-20 to US 74	NC, SC	58
Corridor 14	**W. Texas to Jacksonville**		**2,040**
I-10	I-20 to I-95	TX, LA, MS, AL, FL	1,659
I-12	I-10 @ Baton Rouge to I-10/59	LA	86
I-110	@ Biloxi	MS	4
I-110	in Pensacola	FL	7
I-110	in Baton Rouge	LA	9
I-210	in Lake Charles	LA	12
I-310	in New Orleans	LA	11
I-410	in San Antonio	TX	50
I-510	@ Metarie	LA	3
I-610	in New Orleans	LA	4
I-610	in Houston	TX	38
US 90	I-10 @ Baton Rouge to I-10 in New Orleans	LA	157

Exhibit C4-11 (cont'd)

Route	Termini	States	Miles
Corridor 15	**Louisville to Norfolk**		**641**
I-64	Indiana SL to Norfolk	KY, WV, VA	577
I-264	in Louisville	KY	23
I-264	Norfolk	VA	12
I-464	Norfolk	VA	6
I-564	Norfolk	VA	3
I-664	Norfolk	VA	20
Corridor 16	**Columbus, GA to Savannah, GA**		**254**
I-16	Macon to Savannah	GA	165
I-516	Savannah	GA	4
US 80	Columbus to Macon	GA	85
Corridor 17	**Texas to Denver**		**434**
I-27	I-40 to Lubbock	TX	124
US 87	Lubbock to San Angelo	TX	250
US 277	San Angelo to I-10	TX	60
Corridor 18	**Laredo to Indianapolis**		**1,716**
US 51/Purchase Pkwy	I-24 E. Paducah to Memphis	KY, TN	163
US 59	I-30 @ Texarkana to Laredo	TX	616
US 77	I-37 to Brownsville	TX	238
US 281	I-37 to Mexico	TX	172
W. KY/Blue Gr Pkwy	I-24 to Lexington	KY	208
New	Memphis to US 59	TN, MS, AR, LA, TX	319
Corridor 19	**Charleston, SC to Maryland**		**653**
US 29	Washington, DC to Greensboro, NC	VA, NC	253
US 52	US 1 to Charleston, SC	SC	151
US 220/1 (I-73)	Greensboro to US 52 in SC	NC, SC	103
US 360	Richmond to Danville, VA	VA	146
Corridor 20	**Tampa to Memphis**		**710**
US 78	Memphis to Birmingham	MS, AL	184
US 280/19	Birmingham to Tampa	AL, GA, FL	526

Exhibit C4-11 (cont'd)

Route	Termini	States	Miles
Corridor 21	**Lake Charles to St. Louis**		**637**
I-530	Little Rock to Pine Bluff	AR	46
US 65/82	Pine Bluff to I-55	AR, MS	170
US 67	US 412 to Little Rock	AR	121
US 425/165	Pine Bluff to I-10 E. Lake Charles	AR, LA	300
Corridor 22	**Tulsa to Nashville**		**339**
I-155/US 412/63/65	Oklahoma SL to I-40 @ Jackson, TN	AR, TN	339
Corridor 23	**St. Louis to Charleston, WV**		**578**
US 119	US 23 @ Pikeville, KY to Charleston, WV	KY, WV	105
S 402/Combs Mtn Pkwy	I-64 E. Lexington to US 23	KY	76
Audubon Pkwy	Pennyrile Pkwy S. Evansville to Owensboro	KY	25
Cumberland/Boone Pkwy	I-65 E. Bowling Green to US 23	KY	220
Pennyrile Pkwy	Evansville to I-24 S. Hopkinsville, KY	KY	71
Natcher Pkwy	Owensboro to Bowling Green	KY	70
Corridor 24	**Memphis to Chattanooga**		**253**
I-565	@ Huntsville, AL	AL	21
US 72	Memphis to Chattanooga	TN, MS, AL	232
Corridor 25	**Puerto Rico**		**419**
	Island Routes	PR	419

It is recognized that the process of identifying specific LATTS highways has both similarities and differences from the LATTS Trade Corridor concept. Following are some examples of these key similarities and differences:

- LATTS Trade Corridors are generally multi-state in nature; while many LATTS highways serve multiple states, others are wholly contained within a state.

- LATTS Trade Corridors connect significant freight endpoints (Miami, New Orleans, Memphis, Cincinnati, Norfolk, etc.), while LATTS highways typically serve just a portion of the corridor.

- Both LATTS Corridors and LATTS highways serve regionally significant freight traffic, international crossings, movements in all directions, and important economic centers.

- Designating both LATTS Corridors and LATTS highways considered future trade expectations. While the tendency may be to focus on existing patterns and volumes, for purposes of these analyses the establishment of trade corridors and the highways included in them emphasized future traffic volumes, new destinations, and anticipated growth.

An example of this emphasis is the inclusion of the Laredo to Indianapolis (US 59, US 51) Corridor #18 in the LATTS Strategic Highway System. This corridor links Laredo, Houston and Texarkana on US 59 with Memphis, Evansville, Indianapolis and Detroit. While no interstate-type facility exists in much of the corridor now, it has been the subject of considerable recent study to determine feasibility as a Congressionally-designated High Priority Corridor. This corridor holds future promise as a freight route linking the Great Lakes Region with Mexico via Indianapolis and Memphis.

- Trade corridors serve external endpoints (Chicago, Baltimore, St. Louis, etc.), while LATTS highways terminate at the LATTS Region boundaries.

The 25 LATTS Trade Corridors are shown in **Exhibit C4-12** and listed in **Exhibit C4-13**.

Exhibit C4-12
LATTS TRADE CORRIDORS AND STRATEGIC HIGHWAY SYSTEM

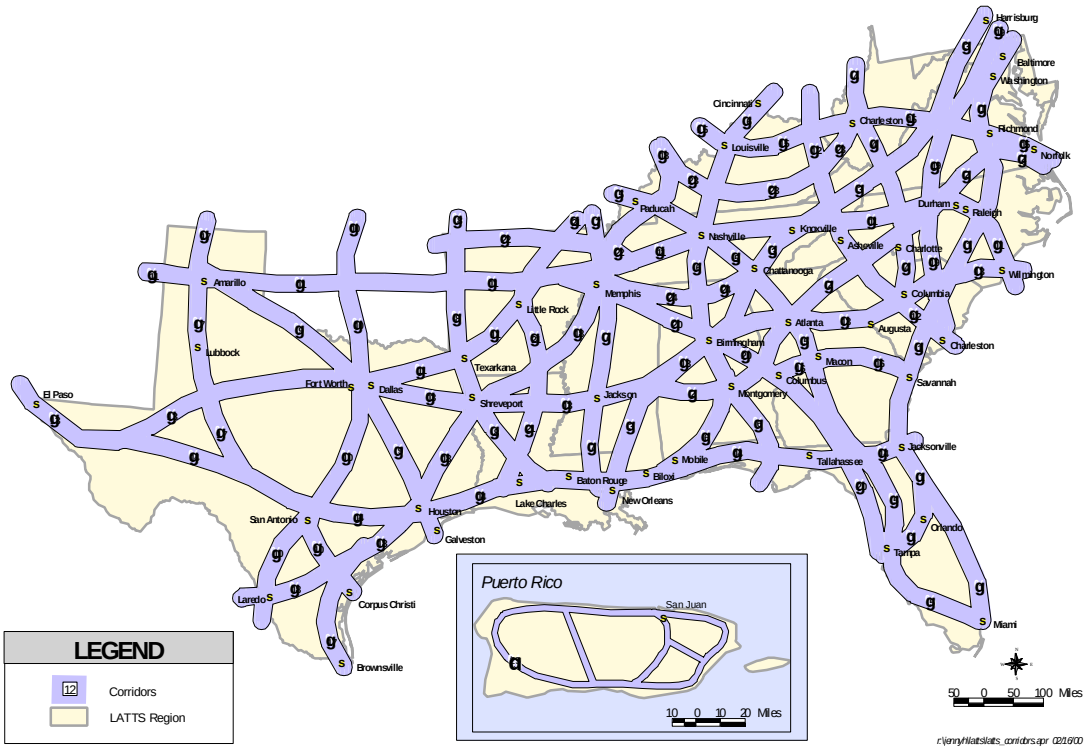


Exhibit C4-13
LATTS TRADE CORRIDORS

LATTS Corridor No.	Major Route	Termini
1	I-95, I-4	South Florida to Washington, DC
2	I-85	West Alabama to Norfolk, VA
3	I-59, I-81, I-66	New Orleans, LA to DC and Pennsylvania
4	I-77, I-79	Columbia, SC to Ohio and Pennsylvania
5	I-75, I-24	South Florida to Illinois
6	I-65	Mobile, AL to Cincinnati, OH
7	I-55	New Orleans, LA to St. Louis, MO
8	I-49, US 71	New Orleans, LA to Kansas City, MO
9	I-45, US 287	Amarillo, TX to Galveston, TX
10	I-35, I-37	South Texas to Plains
11	I-40	North Texas to Wilmington, NC
12	I-26, US 23	Charleston, SC to Ohio
13	I-20, US 76	El Paso, TX to Wilmington, NC
14	I-10	West Texas to Jacksonville, FL
15	I-64	Louisville, KY to Norfolk, VA
16	I-16, US 80	Columbus, GA to Savannah, GA
17	I-27, US 87, US 277	Texas to Denver, CO
18	US 59, US 51	Laredo, TX to Indianapolis, IN
19	I-73, US 52, US 29	Charleston, SC to Maryland
20	US 19, US 78, US 280	Tampa, FL to Memphis, TN
21	US 67, US 65, US 165	Lake Charles, LA to St. Louis, MO
22	US 412	Tulsa, OK to Nashville, TN
23	KY Parkways, US 119	Evansville, IN to Charleston, WV
24	US 72	Memphis, TN to Chattanooga, TN
25	PR-2, PR-3	Puerto Rico

WATER PORT AND AIRPORT INTERMODAL CONNECTORS

The focus of the highway analysis was, appropriately, on the mainline portion of the LATTS Strategic Highway System. This is the portion of the highway network carrying the vast majority of truck travel (vehicle miles) and has "needs" that could be quantified using existing databases. Additionally, the portion of the highway system connecting the LATTS mainline system with the LATTS water ports and airports also was assessed. While these highway *intermodal connectors* sometimes are overlooked, their deficiencies can significantly impact the efficient movement of vehicles, especially large trucks. This report section examines these *LATTS intermodal connectors*.

LATTS intermodal connectors are the highways that link the mainline LATTS Strategic System with LATTS intermodal facilities (water ports and airports). To avoid costly new data collection activities, a recently compiled database was used to conduct the connectors analysis. This database, the *NHS Connectors*, was populated by the state DOTs and compiled by the Federal Highway Administration. It includes a high quality sample of the LATTS Intermodal Connectors.

A Brief History of Intermodal Connectors

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) established a new way of looking at the national transportation policy. ISTEA made it federal policy "to encourage and promote development of a national intermodal transportation system in the United States to move goods and people in an energy efficient manner, provide the foundation for improved productivity growth, strengthen the nations ability to compete in the global economy and obtain the optimum yield from the nations transportation resources."

As a result of this new policy, ISTEA also mandated the establishment of the National Highway System (NHS). During the development of the NHS the US Department of Transportation recognized the critical nature of intermodal connectors. In 1997 the NHS was comprised of almost 157,000 miles and more than 2,000 miles of NHS intermodal connectors. Though these NHS miles accounted for only 4% of all highway miles in the US, they carried 45% of the vehicle miles traveled (VMT).

Understanding the significance of these numbers, Congress enacted the ISTEA reauthorization bill entitled The Transportation Equity Act for the 21st Century (TEA-21). This bill directed that an intermodal freight connector analysis be conducted. This study was to:

- Report on the condition of and improvements made to the NHS connectors
- Review projects performed to improve the connectors
- Identify improvements to the intermodal connectors

This analysis of LATTS Intermodal Connectors is based upon data obtained from this federal study. This data is discussed in greater detail later in this section.

The Role of Intermodal Connectors

Intermodal Connectors fulfill an ever-increasing role in freight transportation. The requirements placed on these network elements are forcing competition at the national, state, and municipal levels. The need for the best freight system possible is clear. Therefore, it is important that any constraints identified by thee analyses be viewed as Alliance-wide issues, since the economic effects of one facility's inability to serve travel needs will affect not only its local market/state economy, but that of the whole Alliance. Addressing these issues will ensure safe and efficient distribution of goods, enhance the Alliance's market position and enhance military mobility, thereby adding to the level of national security.

NHS Connector Database

The data used for this study was provided by the Federal Highway Administration's Office of Intermodal and Statewide Programs. This data source was chosen because it gave the most comprehensive information and relieved the Alliance from the task of collecting/generating a new database. The FHWA collected the data as part of a requirement of the Congressionally-mandated study under Section 1106(d) of TEA-21. This legislation charged the Administrator of FHWA to "review the condition of and improvements made, since the designation of the National Highway System, to connectors on the National Highway System that serve seaports, airports, and other intermodal freight transportation facilities."

The first step in this process was to compile a brief description of all water ports, airports, and other intermodal freight transportation facility NHS connectors. This effort resulted in the *NHS connector database.* This database consists of the following information:

- Facility Identification
- State FIPS
- County and regional codes
- Facility name
- Selection criteria
- Connector description
- Connector length

The second step was to collect data with the cooperation of the states on the condition of these connectors. Because of the large amount of time and money involved in this undertaking, criteria were established to provide the states and FHWA with a more manageable list of connectors. While the list of connectors was being compiled, a survey was being formulated which covered all ranges of physical and operational characteristics. The survey was entitled *Intermodal Connectors Condition and Investment Study – Field Inventory Data Checklist* and its results formed the *NHS Intermodal Connectors Inventory* database.

FHWA Criteria for Inventory

Exhibit C4-14 shows the criteria used by the FHWA to identify those connectors which were then inventoried.

Exhibit C4-14
FHWA CONNECTOR CRITERIA

Primary Criteria for Commercial Aviation Airports	Passenger	Scheduled commercial service with more than 250,000 annual enplanements
	Cargo	100 trucks per day in each direction on the principal connecting route, or 100,000 tons per year arriving or departing by highway.
Secondary Criteria for Commercial Aviation Airports	Intermodal terminals that handle more than 20% of passenger or freight volumes by mode within a state and which have significant highway interface. Intermodal terminals identified by an Intermodal Management System or State/MPO transportation plan as a major facility and is targeted by State/MPO for major investment to address a deficiency on a connecting route or anticipated deficiency as a result of significant expansion of traffic.	
Primary Criteria for Commercial Water Ports	Cargo	Terminals that handle more than 50,000 TEUs per year (or 100 trucks per day in each direction -- trucks are defined as large single-unit trucks or combination vehicles handling freight). Bulk commodity terminals that handle more than 500,000 tons per year by highway or 100 trucks per day in each direction on the principal connecting route (clusters of terminals are can be considered as on facility)
	Passenger	Terminals that handle more than 250,000 passengers per year or 1,000 passengers per day for at least 90 days during the year.

The FHWA used freight and passenger information to define its criteria for the NHS Intermodal Connector inventory database. LATTS criteria included such issues as physical features, intermodal considerations, socioeconomic factors, and political funding. **Exhibit C4-15** shows the LATTS criteria.

LATTS Connectors Database

A LATTS Intermodal Connector may not be included in the *NHS Intermodal Connectors Inventory* database because:

- FHWA either had not obtained information for all NHS connectors at the time of these analyses or it had not been entered into the database.
- The facility has no connector because the facility is located on the NHS highway.
- The facility is new and will be built in the future.
- The facility did not meet FHWA criteria for inclusion.

Exhibit C4-15
LATTS CONNECTOR CRITERIA

<table>
<tr><td rowspan="4">LATTS Water Ports</td><td rowspan="2">Include all NHS waterports and complexes that meet the following criteria:</td><td>All NHS deep-water ports (channel depths of 35 feet or more)</td></tr>
<tr><td>All NHS shallow-draft facilities that currently handle in excess of 500,000 tons annually of waterborne Latin American cargo.</td></tr>
<tr><td colspan="2">Include any proposed water ports which the respective state believes will meet the above criteria within the next 10 to 15 years.</td></tr>
<tr><td colspan="2">Include flexibility to include a port that only marginally fails to meet the above criteria.</td></tr>
<tr><td colspan="3">Include any significant water port in any Alliance member that does not have a facility that meets the above criteria.</td></tr>
<tr><td rowspan="2">LATTS Airports Criteria</td><td colspan="2">Include all that have nonstop flights to/from Latin America.</td></tr>
<tr><td></td><td>Physical Features
• Runway Length (>10,000 ft.)
• Secondary Runway at least 80% of primary runway length
• Adequate apron area
• Cargo handling facilities
• Designated as a port of entry with US Customs on-site
• Foreign trade zone
• Available for industrial activities</td></tr>
<tr><td></td><td></td><td>Intermodal Considerations
• Reasonable access to an interstate highway
• At least one other modal connection (rail or port) LATTS Airports Criteria</td></tr>
<tr><td></td><td></td><td>Socioeconomic factors
• Available labor force
• Population base
• Tourism market
• Existing passenger jet service</td></tr>
<tr><td></td><td></td><td>Political/Funding
• Local funding capability
• State funding support
• Economic incentives
• Adequate zoning</td></tr>
<tr><td rowspan="3"></td><td colspan="2">Include all facilities that may meet criteria in the next 10 to 15 years.</td></tr>
<tr><td colspan="2">Retain flexibility to include facilities that meet most criteria and only misses marginally</td></tr>
<tr><td colspan="2">Include one airport for any state that does not meet the above criteria</td></tr>
</table>

There are 52 LATTS water ports in the Strategic Transportation System. These 52 ports have 61 major terminal areas. The NHS Connectors database contained information for 50 of these major terminal areas. The 50 LATTS terminal areas in the NHS Connectors database have a total of 69 highway connectors (several terminal areas have more than one connector). Of these 69 highway connectors, there was information in the NHS Connectors database for 57 individual connectors, totaling 113 miles.

Of the 46 existing LATTS airports, 42 were represented in the NHS Connectors database. These 42 airports have 54 highway connectors, of which 31 were inventoried in the NHS Connectors database (55 miles).

Thus, this analysis used data for 88 LATTS intermodal connectors totaling 168 miles. These are the connectors for which information was available at the time of these analyses. They are distributed among the Alliance members as shown in **Exhibit C4-16**. As depicted in the map, Texas, Louisiana, and Florida had about half (43) of the inventoried connectors totaling more than 78 miles.

Exhibit C4-16

LATTS STRATEGIC HIGHWAY SYSTEM

NUMBER OF LATTS NATIONAL HIGHWAY SYSTEM
CONNECTORS & NUMBER OF MILES
(Connectors with Data in the NHS Intermodal Connectors
Inventory Database)